**LIP DETECTION:** Perhaps the most intuitive way to think about lip detection is the difference of the color of the lips from the rest of the human face. If we try to compare the color of the lips to that of the surrounding areas, we would notice that the pixels which make up the lip area are “redder”, with green being more dominant around the lips. In this way it’s possible to determine the borders of the lips by finding the edges and then divide the pixels into two groups (those that belong to the lips, and those that don’t).

After applying a binary filter to the image of a face, it’s possible to compute the orientation and elongation since in the vast majority of the time, lips have an elongated form and are oriented horizontally.

**Sources Used for the Project:**

RGB to HSV conversion: <https://www.geeksforgeeks.org/program-change-rgb-color-model-hsv-color-model/>

HSV to RGB conversion: <https://gist.github.com/mjackson/5311256>